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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,400

03/02/2005

Sami Poykko

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03/31/2006

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EXAMINER

HUYNH, NAM TRUNG

ART UNIT

PAPER NUMBER

2617

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/526,400	Applicant(s) POYKKO ET AL.	
	Examiner Nam Huynh	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 24-26 is/are rejected.
- 7) ☒ Claim(s) 18-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/2/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-2, 8, 10-11, 14-15, 17, and 24-26 are rejected under 35 U.S.C. 102(a) as being anticipated by Havinis et al. (US 6,295,454).

A. Regarding claims 1 and 26, Havinis et al. discloses a system and method for providing location information for terminal-based position calculation comprising a Serving Mobile Location Center (SMLC) that can allow a mobile station (MS) to obtain, or “collect”, positioning measurements, or “location information” (column 4, lines 63-64). The SMLC also chooses an optimum positioning method available that can be network or terminal based (column 4, lines 14-20) via a command message (column 5, lines 16-28). Once the MS obtains the command message, the MS calculates its own location based upon its own positioning measurements, the additional information supplied by the network, and a location function within the MS (column 5, lines 36-40).

B. Regarding claim 2, Havinis et al. discloses an example of a message received by the MS containing current cell ID and a Timing Advance (TA) value for a serving base station in order for the MS to calculate its positioning (column 7, lines 24-26).

C. Regarding claim 8, Havinis et al. discloses that positioning information within a message shall indicate to the Mobile Switching Center/Visitor Location Register

(MSC/VLR) whether the MS can support terminal-based positioning, the type of terminal-based positioning methods supported, and whether the MS is capable of performing location calculations based upon the positioning measurements. Once the MSC/VLR receives this data it is sent to the SMLC so that it can determine the optimum positioning method (column 4, lines 50-59).

D. Regarding claim 10, Havinis et al. discloses that the MS is commanded to begin the collection of location information (column 5, lines 21-22).

E. Regarding claim 11, Havinis et al. discloses a Position Measurement Module (PMM) within the MS to perform positioning measurements (column 5, lines 41-44) therefore rendering the arrangement of the mobile device to measure a level of at least one type of information.

F. Regarding claim 14, Havinis et al. shows in figure 5 a MS that is represented by a cellular phone (item 20).

G. Regarding claims 15 and 17, Havinis et al. discloses that a Base Station Controller (BSC) provides the current cell ID and Timing Advance (TA) value for a serving Base Transceiver Station (BTS) and sends this to MSC. The MSC then sends this data to the SMLC, which is then sent to the MS in order to calculate its position (column 7, lines 21-35). The current cell is selected in order to measure information that is sent to the MS for the calculation of its position, therefore rendering the limitations of claim 17.

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H. Regarding claims 24-25, Havinis et al. discloses an iterative method in figure 8 by showing the loop-connecting step 870 and 685. A linear method is shown by the flow downward flow of the steps.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 3-7, 9, 12-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Havinis et al. (US 6,295,454) in view of Carlsson (US 2003/0119524).

A. Regarding claims 3, 12-13, and 16, Havinis et al. discloses a system and method for providing location information for terminal-based position calculation comprising a Serving Mobile Location Center (SMLC) that can allow a mobile station (MS) to obtain, or "collect", positioning measurements, or "location information" (column 4, lines 63-64). The SMLC also chooses an optimum positioning method available that can be network

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or terminal based (column 4, lines 14-20) via a command message (column 5, lines 16-28). Once the MS obtains the command message, the MS calculates its own location based upon its own positioning measurements, the additional information supplied by the network, and a location function within the MS (column 5, lines 36-40). However, Havinis et al. does not explicitly disclose the step of determining a virtual base station estimate. Applicant defines the term "virtual base station estimate" as a neighboring cell and its respective received level measurement (page 27, paragraph 439). Carlsson discloses a method for determining of the position of a mobile terminal operating in a packet-switched communications system based on timing advance values through network initiated artificial (virtual) cell hops. A mobile terminal is instructed to perform artificial cell changes so that timing advance values may be obtained for the mobile terminal and may optionally supplemented by signal strength measurements (abstract). The details of the method disclosed by Carlsson in which neighboring base stations use timing advance values to calculate the location of the mobile terminal can be seen on page 2, paragraph 20. Furthermore, Carlsson also discloses a SMLC utilized to provide information to the mobile terminal similarly to Havinis et al. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention to follow the teachings of Carlsson, and use neighboring cell information to report to the SMLC of Havinis et al. in order to determine the location of the MS without resort to GPS or the like.

B. Regarding claim 4, Carlsson discloses that the Base Station Subsystem (BSS) secures the timing advance values for at least two cells, combines them with signal

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strength measurements and cell ids, and sends them to the SMLC. The SMLC then determines, or estimates, the location of the mobile terminal based on the supplied timing advance values, the supplied signal strength measurements, and the cell identifications (page 4, paragraph 33). The measurements of the neighboring cells render the virtual measurements.

C. Regarding claim 5, measurements such as timing advance and signal strength measurements made with respect to the serving base station render the "real measurements". This step can be seen in figure 3, item 220.

D. Regarding claim 6, the limitations are rejected as applied to claims 4 and 5.

E. Regarding claim 7, Carlsson discloses that timing advance values are obtained, or measured (abstract).

F. Regarding claim 9, Carlsson discloses that the SMLC may calculate the final location estimate of the mobile terminal and the accuracy thereof (page 2, paragraph 16). Since there is a "final" location estimate, one of ordinary skill in the art would recognize that initial estimates must be made before a final estimate can be determined.

Allowable Subject Matter

6. Claims 18-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

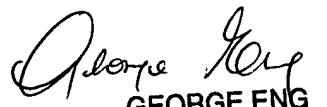
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam Huynh whose telephone number is 571-272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NTH
3/27/06


GEORGE ENG
SUPERVISORY PATENT EXAMINER